

#2



OTPE

RAW SEQUENCE LISTING

DATE: 01/16/2002

PATENT APPLICATION: US/09/903,068

TIME: 15:53:53

Input Set : N:\Crf3\RULE60\09903068.raw
Output Set: N:\CRF3\01162002\I903068.raw

SEQUENCE LISTING

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3 (1) GENERAL INFORMATION:
             (i) APPLICANT: Miyazono, Kohei; Dijke, Peter Ten;
      6
                            Franzen, Petra; Yamashita, Hidetoshi; Heldin, Carl-Henrik
      8
            (ii) TITLE OF INVENTION: Activin Receptor-Like Kinase, Proteins
      9
                                      Having Serine Threonine Kinase Domains And Their Use
     11
           (iii) NUMBER OF SEQUENCES: 29
     13
            (iv) CORRESPONDENCE ADDRESS:
     14
                  (A) ADDRESSEE: Felfe & Lynch
     15
                  (B) STREET: 805 Third Avenue
     16
                  (C) CITY: New York City
     17
                  (D) STATE: New York
     18
                  (F) ZIP: 10022
     20
             (V) COMPUTER READABLE FORM:
     21
                  (A) MEDIUM TYPE: Diskette, 3.5 inch, 360 kb storage
     22
                  (B) COMPUTER: IBM
                                                                     ENTERED
     23
                  (C) OPERATING SYSTEM: PC-DOS
     24
                  (D) SOFTWARE: Wordperfect
     26
            (vi) CURRENT APPLICATION DATA:
C--> 27
                  (A) APPLICATION NUMBER: US/09/903,068
C--> 28
                  (B) FILING DATE: 11-Jul-2001
           (vii) PRIOR APPLICATION DATA:
     62
     31
                  (A) APPLICATION NUMBER: 09/679,187
     32
                  (B) FILING DATE:
     35
                  (A) APPLICATION NUMBER: PCT/GB93/02367
                  (B) FILING DATE: 17-November-1993
     36
     39
                  (A) APPLICATION NUMBER: 9224057.1
     40
                  (B) FILING DATE: 17-November-1992
                  (A) APPLICATION NUMBER: 9304677.9
     43
     44
                  (B) FILING DATE: 8-March-1993
     47
                  (A) APPLICATION NUMBER: 9304680.3
     48
                  (B) FILING DATE: 8-March-1993
     51
                  (A) APPLICATION NUMBER: 9311047.6
     52
                  (B) FILING DATE: 28-May-1993
     55
                  (A) APPLICATION NUMBER: 9313763.6
     56
                  (B) FILING DATE: 2-July-1993
     59
                  (A) APPLICATION NUMBER: 9136099.2
     60
                  (B) FILING DATE: 3-August-1993
     63
                  (A) APPLICATION NUMBER: 9321344.5
     64
                  (B) FILING DATE: 15-October-1993
     66
          (viii) ATTORNEY/AGENT INFORMATION:
     6.7
                  (A) NAME: Kohlei, Vineet
     68
                  (B) REGISTRATION NUMBER: 37,003
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Input Set : N:\Crf3\RULE60\09903068.raw
Output Set: N:\CRF3\01162002\I903068.raw

69 (C) REFERENCE/DOCKET NUMBER: LUD 5298																		
	69			(C)) REI	FERE	NCE/I	OOCK	ET N	JMBEI	R: LU	JD 52	298					
	71	1	(ix)	TELI														
	72) TE			•	•									
	73																	
	78	· / -																
	79	•																
	80		(B) TYPE: nucleic acid															
	81		(C) STRANDEDNESS: unknown															
	82		(D) TOPOLOGY: linear															
	83		(ii) MOLECULE TYPE: cDNA															
	84	(iii) HYPOTHETICAL: NO																
	85		(iv) ANTI-SENSE: NO															
	86	(v) FRAGMENT TYPE: internal																
	87	(vi) ORIGINAL SOURCE:																
	88																	
	89	- · · ·																
	90			(A)) NAI	4Ε/KI	EY: (CDS										
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	92			SEQU														
																	GAATA	60
	96 Z	AGAA	ACAT'	rr r:	rgcT(CCAG	c cc	CCAT	CCCA	GTC	CCGG	GAG (GCTG	CCGC	GC CZ	AGCT	GCGCC	120
																	GCCGT	180
	100	CCAC	GCGC'	rgg (CGGT	CAA	CT GO	CGGC	CGCG	C GG	rgga	GGGG	AGG'	rggc	ccc (GGTC	CGCCGA	240
	102	AGG	CTAG	CGC (CCCG	CCAC	CC GC	CAGA	GCGG	G CC	CAGA	GGGA	CC I	ATG A	ACC :	TTG (GGC	294
	103												1	Met !	Chr 1	Leu (Gly	
	104						•							1				
																ACC		342
			Pro	Arg	Lys	Gly		Leu	Met	Leu	Leu		Ala	Leu	Val	Thr		
	108	5					10					15					20	
																ACG		390
		Gly	Asp	Pro	Val		Pro	Ser	Arg	Gly		Leu	Val	Thr	Cys	Thr	Cys	
	112					25					30					35		
																TGC		438
		Glu	Ser	Pro		Cys	Lys	Gly	Pro		Cys	Arg	Gly	Ala	_	Cys	Thr	
	116				40					45					50			
																CGG		486
		Val	Val		Val	Arg	Glu	Glu		Arg	His	Pro	Gln		His	Arg	Gly	
	120			55					60					65				
																GAG		534
		Cys	Gly	Asn	Leu	His	Arg	Glu	Leu	Cys	Arg	Gly	Arg	Pro	Thr	Glu	Phe	
	124		70					75					80					
	126	GTC	AAC	CAC	TAC	TGC	TGC	GAC	AGC	CAC	CTC	TGC	AAC	CAC	AAC	GTG	TCC	582
	127	Val	Asn	His	Tyr	Cys	Cys	Asp	Ser	His	Leu	Cys	Asn	His	Asn	Val	Ser	
	128	85					90					95					100	
	130	CTG	GTG	CTG	GAG	GCC	ACC	CAA	CCT	CCT	TCG	GAG	CAG	CCG	GGA	ACA	GAT	630
		Leu	Val	Leu	Glu		Thr	Gln	Pro	Pro		Glu	Gln	Pro	Gly	Thr	Asp	
	132					105					110					115		
	134	GGC	CAG	CTG	GCC	CTG	ATC	CTG	GGC	CCC	GTG	CTG	GCC	TTG	CTG	GCC	CTG	678



Input Set : N:\Crf3\RULE60\09903068.raw
Output Set: N:\CRF3\01162002\1903068.raw

135 136	Gly	Gln	Leu	Ala 120	Leu	Ile	Leu	Gly	Pro 125	Val	Leu	Ala	Leu	Leu 130	Ala	Leu	
	GTG	GCC	CTG		GTC	CTG	GGC	CTG		CAT	GTC	CGA	CGG		CAG	GAG	726
	Val																
140			135	-			-	140	-			_	145	_			
142	AAG	CAG	CGT	GGC	CTG	CAC	AGC	GAG	CTG	GGA	GAG	TCC	AGT	CTC	ATC	CTG	774
143	Lys	Gln	Arg	Gly	Leu	His	Ser	Glu	Leu	Gly	Glu	Ser	Ser	Leu	Ile	Leu	
144	_	150	-	_			155			_		160					
146	AAA	GCA	TCT	GAG	CAG	GGC	GAC	ACG	ATG	TTG	GGG	GAC	CTC	CTG	GAC	AGT	822
147	Lys	Ala	Ser	Glu	Gln	Gly	Asp	Thr	Met	Leu	Gly	Asp	Leu	Leu	Asp	Ser	
148	165					170					175					180	
	GAC																870
	Asp	Cys	Thr	Thr	Gly	Ser	Gly	Ser	Gly		Pro	Phe	Leu	Val		Arg	
152					185					190					195		
	ACA																918
	Thr	Val	Ala	_	Gln	Val	Ala	Leu		Glu	Cys	Val	Gly		Gly	Arg	
156				200					205					210			
	TAT																966
	\mathtt{Tyr}	Gly		Val	Trp	Arg	GTA		Trp	Hıs	GIĀ	Glu		Val	Ala	Val	
160		3 77.0	215	maa	maa		a	220	~~~	maa	таа	mma	225	G3.G	3 CM	an a	1014
	AAG																1014
	Lys		Pne	ser	ser	Arg	_	GIU	GIn	Ser	Trp		Arg	GIU	Thr	GIU	
164	ATC	230	220	202	CMA	mmc	235	202	CA C	CAC	N N C	240	CIIIX	ccc	mmc	A III C	1062
	Ile																1002
	245	TYT	ASII	1111	val	250	пеп	ALG	птъ	АБР	255	116	пеп	Gry	FIIC	260	
	GCC	ጥሮል	GAC	ΔПС	ΔCC		CGC	AAC	ጥሮር	AGC		CAG	СТС	TGG	СТС		1110
	Ala																1110
172			p		265		5			270		02			275		
	ACG	CAC	TAC	CAC		CAC	GGC	TCC	CTC		GAC	TTT	CTG	CAG		CAG	1158
	Thr																
176			-	280			-		285	-	-			290	-		
178	ACG	CTG	GAG	CCC	CAT	CTG	GCT	CTG	AGG	CTA	GCT	GTG	TCC	GCG	GCA	TGC	1206
179	Thr	Leu	Glu	Pro	His	Leu	Ala	Leu	Arg	Leu	Ala	Val	Ser	Ala	Ala	Cys	
180			295					300					305				
182	GGC	CTG	GCG	CAC	CTG	CAC	GTG	GAG	ATC	TTC	GGT	ACA	CAG	GGC	AAA	CCA	1254
183	Gly	Leu	Ala	His	Leu	His	Val	Glu	Ile	Phe	Gly	Thr	Gln	Gly	Lys	Pro	
184		310					315					320					
	GCC																1302
	Ala	Ile	Ala	His	Arg		Phe	Lys	Ser	Arg		Val	Leu	Val	Lys		
	325					330					335					340	
	AAC																1350
	Asn	Leu	Gln	Cys		Ile	Ala	Asp	Leu		Leu	Ala	Val	Met		Ser	
192					345					350					355		1200
	CAG																1398
	Gln	GTĀ	ser	_	туг	ьeu	Asp	тте	_	Asn	Asn	Pro	arg		GTĀ	Tnr	
196	777	ccc	ma a	360	CCA	000	CAC	CEC	365	C 7 C	C T C	C 7 C	N M C	370	7 00	CAC	1116
	AAG																1446
TAA	Lys	Arg	TAL	Me C	ATA	PLO	GIU	٧dl	டeu	ASP	GIU	GTII	тте	Arg	THE	Asp	



Input Set : N:\Crf3\RULE60\09903068.raw
Output Set: N:\CRF3\01162002\I903068.raw

200			375					380					385				
	ጥርር	արար		TCC	ሞልሮ	AAG	TGG		GAC	ΔΨС	ጥርር	GCC		GGC	СТС	GTG	1494
							Trp										1.7.
204	0,0	390	014	001	-1-	2,0	395					400		011			
	CTG		GAG	ATT	GCC	CGC	CGG	ACC	ATC	GTG	ААТ		ATC	GTG	GAG	GAC	1542
							Arg										
	405					410					415	•				420	
		AGA	CCA	CCC	TTC	TAT	GAT	GTG	GTG	CCC	AAT	GAC	CCC	AGC	TTT	GAG	1590
							Asp										
212	_	_			425	_	_			430		_			435		
214	GAC	ATG	AAG	AAG	GTG	GTG	TGT	GTG	GAT	CAG	CAG	ACC	CCC	ACC	ATC	CCT	1638
215	Asp	Met	Lys	Lys	Val	Val	Cys	Val	Asp	Gln	Gln	Thr	${\tt Pro}$	Thr	Ile	Pro	
216				440					445					450			
218	AAC	CGG	CTG	GCT	GCA	GAC	CCG	GTC	CTC	TCA	GGC	CTA	GCT	CAG	ATG	ATG	1686
219	Asn	Arg	Leu	Ala	Ala	Asp	Pro	Val	Leu	Ser	Gly	Leu	Ala	Gln	Met	Met	
220			455					460					465				
							AAC										1734
223	Arg	Glu	Cys	Trp	\mathtt{Tyr}	Pro	Asn	Pro	Ser	Ala	Arg	Leu	Thr	Ala	Leu	Arg	
224		470					475					480					
							AAA										1782
227	Ile	Lys	Lys	Thr	Leu		Lys	Ile	Ser	Asn		Pro	Glu	Lys	Pro		
	485					490					495					500	
															1831		
231	l Val Ile Gln 3 TGGGGGGGTG GGGGCAGTG GATGGTGCCC TATCTGGGTA GAGGTAGTGT GAGTGTGGTG 18																
																	1891
235	TGT	GCTG	GGG I	ATGG	GCAG	CT GO	CGCC	rgcc:	g GC	rcgg						STGGTG AAAAAT	1951
235 237	TGT(GCTG(GCTG(GGG I	ATGG(IGAA	GCAG(ACCT(CT GO	CGCCT AAAAA	rgcc:	GCT A AAA	rcgg							
235 237 241	TGT(GCTG(GCTG(INF(GGG A GGC T	ATGGO IGAA ION	GCAGO ACCTO FOR	CT GO GA AA SEQ	CGCCT AAAA! ID 1	rgcc: Aaaa No: 2	r gc: A AAA 2:	rcgg							1951
235 237 241 242	TGT(GCTG(GCTG(INF(GGG A GGC S DRMAS) SE(ATGGO FGAAA FION QUENO	GCAGO ACCTO FOR CE CI	CT GO GA AA SEQ HARAO	CGCCT AAAAA ID 1 CTERI	rgcc: Aaaa No: 2	GCT A AAA D: CS:	rcgg(A							1951
235 237 241 242 243	TGTO ACAO (2)	GCTG(GCTG(INF(GGG A GGC G DRMAG) SE(ATGG(FGAA! FION QUEN(A) LI	GCAGO ACCTO FOR CE CI ENGTI	CT GC GA AA SEQ HARAC H: 50	CGCCTAAAAA ID 1 CTERI 03 an	rGCC AAAA NO: 2 ISTIC nino	GCT A AAA D: CS:	rcgg(A							1951
235 237 241 242 243 244	TGTO ACAO (2)	GCTG(GCTG(INF(GGG A GGC G DRMAG DRMAG DRMAG DRMAG GE GG GG GG GG GG GG GG GG GG GG GG GG	ATGG(TGAA! TION QUEN(A) LI 3) T	GCAGO ACCTO FOR CE CHENGTH	CT GO GA AA SEQ HARAO H: 50	CGCCTAAAAA ID 1 CTERI 03 an	rGCC: AAAA! NO: 2 ISTIC mino cid	GCT A AAA D: CS:	rcgg(A							1951
235 237 241 242 243 244 245	TGTO ACAO (2)	GCTG(GCTG(INF((i)	GGG AGGC GRMATON SEC	ATGGO TGAAA TION QUENC A) LI B) TO	GCAGO ACCTO FOR CE CH ENGTH OPOLO	CT GC GA AA SEQ HARAC H: 50 amir	CGCCTAAAAAAACTERI CTERI O3 am no ac line	PGCCT AAAA! NO: 2 ISTIC mino cid ear	GCT A AAA D: CS:	rcgg(A							1951
235 237 241 242 243 244 245 246	TGTO ACAO (2)	GCTGC GCTGC INFC (ii)	GGG AGGC GRMAT DRMAT DRMAT (AGGC GRMAT (AGGC GRMAT MOI MOI	ATGGO TGAAA TION QUENC A) LI B) TO C) TO	GCAGO ACCTO FOR CE CH ENGTH OPOLO LE TY	CT GO SA AA SEQ HARAO H: 50 amir OGY:	CGCCTAAAAA ID M CTERI O3 am no ac line prot	TGCCT AAAAA NO: 2 ISTIC mino cid cid car	GCT A AAA 2: CS: acid	rcgg(\ ls	ccc	CAGO					1951
235 237 241 242 243 244 245 246 247	TGTC ACAC (2)	GCTGG GCTGG INFO (i)	GGG A GGC G DRMAG) SEQ (A (B (I)	ATGGO FGAAA FION QUENC A) LI B) T C) T C CLECUI	GCAGO FOR TENGTH TOPOLO TENGTH	CT GC GA AI SEQ HARACH: 50 amir CGY: CPE:	CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	PGCCTAAAAA NO: 2 ISTIC nino cid ear cein	F GCTA AAAA2: CS: acid	rcgg(A ds): 2	CAG(CCA	ccc 1	AGCC <i>I</i>	AAAAT	1951
235 237 241 242 243 244 245 246 247	TGTC ACAC (2)	GCTGG GCTGG INFO (i)	GGG A GGC G DRMAG) SEQ (A (B (I)	ATGGO FGAAA FION QUENC A) LI B) T C) T C CLECUI	GCAGO FOR TENGTH TOPOLO TENGTH	CT GC GA AI SEQ HARACH: 50 amir CGY: CPE:	CGCCTAAAAA ID M CTERI O3 am no ac line prot	PGCCTAAAAA NO: 2 ISTIC nino cid ear cein	F GCTA AAAA2: CS: acid	rcgg(A ds): 2	CAG(CCA	ccc 1	AGCC <i>I</i>	AAAAT	1951
235 237 241 242 243 244 245 246 247 249 250	TGTC ACAC (2) Met	GCTGG GCTGG (i) (i) (ii) (xi)	GGG A GGC T DRMAT) SE((A (I) MOI) SE(Leu	ATGGO FGAAA FION QUENC A) LI B) TS C) TC LECUI QUENC Gly	GCAGO FOR FOR CE CH ENGTH OPOLO LE TY CE DH Ser 5	CT GC GA AA SEQ HARAC H: 50 amir DGY: VPE: ESCR:	CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	rGCCT AAAAA NO: 2 ISTIC nino cid ear cein ON: 5	F GCT A AAA 2: CS: acid acid	rcgg(A ds ID No Leu 10	D: 2 Leu	CAGO:	Leu	Leu	Met 15	AAAAAT	1951
235 237 241 242 243 244 245 246 247 249 250	TGTC ACAC (2) Met	GCTGG GCTGG (i) (i) (ii) (xi)	GGG A GGC T DRMAT) SE((A (I) MOI) SE(Leu	ATGGO FGAAA FION QUENC A) LI B) TS C) TC LECUI QUENC Gly	GCAGO FOR FOR CE CH ENGTH OPOLO LE TY CE DH Ser 5	CT GC GA AA SEQ HARAC H: 50 amir DGY: VPE: ESCR:	EGCCTAAAAA ID 1 ETERI 03 am no ac line prot IPTIC Arg	rGCCT AAAAA NO: 2 ISTIC nino cid ear cein ON: 5	F GCT A AAA 2: CS: acid acid	rcgg(A ds ID No Leu 10	D: 2 Leu	CAGO:	Leu	Leu	Met 15	AAAAAT	1951
235 237 241 242 243 244 245 246 247 249 250 252 253	TGTC ACAC (2) Met 1 Leu	GCTGG GCTGG INFO (ii) (ii) (xi) Thr	GGG AGGC GGC GGC GGC GGC GGC GGC GGC GGC	ATGGO FGAAA FION QUENC A) LH B) TY C) TC LECUI QUENC Gly Gln 20	GCAGG FOR FOR CE CH ENGTH (PE: OPOLG LE TY CE DH Ser 5	CT GC GA AM SEQ HARACH: 5C amin CGY: YPE: ESCR: Pro Asp	EGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	PGCCT AAAAA NO: 2 ISTIC nino cid car cein DN: 8 Lys	E GCT A AAA 2: CS: acid GEQ Gly Lys 25	rCGGGA A ds ID NO Leu 10 Pro	D: 2 Leu Ser	CAGO : Met Arg	Leu Gly	Leu Pro 30	Met 15 Leu	Ala Val	1951
235 237 241 242 243 244 245 246 247 249 250 252 253	TGTC ACAC (2) Met 1 Leu	GCTGG GCTGG INFO (ii) (ii) (xi) Thr	GGG AGGC GGC GGC GGC GGC GGC GGC GGC GGC	ATGGO FGAAA FION QUENC A) LH B) TY C) TC LECUI QUENC Gly Gln 20	GCAGG FOR FOR CE CH ENGTH (PE: OPOLG LE TY CE DH Ser 5	CT GC GA AM SEQ HARACH: 5C amin CGY: YPE: ESCR: Pro Asp	CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	PGCCT AAAAA NO: 2 ISTIC nino cid car cein DN: 8 Lys	E GCT A AAA 2: CS: acid GEQ Gly Lys 25	rCGGGA A ds ID NO Leu 10 Pro	D: 2 Leu Ser	CAGO : Met Arg	Leu Gly	Leu Pro 30	Met 15 Leu	Ala Val	1951
235 237 241 242 243 244 245 246 247 249 250 252 253 255 256	Met 1 Leu	GCTGG GCTGG INFO (ii) (xi) Thr Val	GGG AGGC TORMATO (AGGC) SECON (AGGC) MOI (AGGC) Thr Thr 35	ATGGO FGAAA FION QUENC A) LI B) TO CLECUI QUENC Gly Gln 20 Cys	GCAGO ACCTO FOR CE CE ENGTH OPOLO LE TY CE DE Ser Gly Glu	CT GG SEQ HARAGH: 50 amin CGY: YPE: ESCRI Pro Asp	CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	AAAAA NO: 2 ISTIC nino cid car cein DN: 8 Lys Val	GEQ Constitution of the co	TCGGG A ds ID NO Leu 10 Pro	D: 2 Leu Ser Gly	CAGO Met Arg	Leu Gly Thr 45	Leu Pro 30 Cys	Met 15 Leu Arg	Ala Val Gly	1951
235 237 241 242 243 244 245 246 247 249 250 252 253 255 256	Met 1 Leu	GCTGG GCTGG INFO (ii) (xi) Thr Val	GGG AGGC TORMATO (AGGC) SECON (AGGC) MOI (AGGC) Thr Thr 35	ATGGO FGAAA FION QUENC A) LI B) TO CLECUI QUENC Gly Gln 20 Cys	GCAGO ACCTO FOR CE CE ENGTH OPOLO LE TY CE DE Ser Gly Glu	CT GG SEQ HARAGH: 50 amin CGY: YPE: ESCRI Pro Asp	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	AAAAA NO: 2 ISTIC nino cid car cein DN: 8 Lys Val	GEQ Constitution of the co	TCGGG A ds ID NO Leu 10 Pro	D: 2 Leu Ser Gly	CAGO Met Arg	Leu Gly Thr 45	Leu Pro 30 Cys	Met 15 Leu Arg	Ala Val Gly	1951
235 237 241 242 243 244 245 246 247 249 250 252 253 255 256 258 259	Met 1 Leu Thr	GCTGG GCTGG INFO (ii) (xi) Thr Val Cys Trp 50	GGG AGGC TORMATO (AGGC AGGC AGGC AGGC AGGC AGGC AGGC AGG	ATGGO FGAA FION QUENC A) LH B) TO CLECUI QUENC Gly Gln 20 Cys	GCAGG ACCTG FOR CE CE ENGTH (PE: DPOLG LE TY CE DE Ser 5 Gly Glu Val	CT GG SEQ HARAGH: 50 amin DGY: VPE: ESCR: Pro Asp Ser Val	CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	AAAAAANO: Z ISTIC nino cid car cein DN: S Lys Val His 40 Val	GEQ Constitution of the co	TCGGG A ds ds Leu 10 Pro Lys Glu	O: 2 Leu Ser Gly	CAGO Met Arg Pro Gly 60	Leu Gly Thr 45 Arg	Leu Pro 30 Cys	Met 15 Leu Arg	Ala Val Gly Gln	1951
235 237 241 242 243 244 245 246 247 249 250 252 253 256 258 259 261 262	Met 1 Leu Thr Ala Glu 65	Cys Trp 50 His	GGG AGGC TORMATO (AGGC AGGC AGGC AGGC AGGC AGGC AGGC AGG	ATGGO FGAA FION QUENC A) LI B) TO CLECUI GLY Gly Gln Cys Thr	GCAGGACCTC FOR FOR ENGTH (PE: DPOLC ETT CE DH Ser 5 Gly Glu Val	CT GG SEQ HARAGH: 50 amin DGY: VPE: ESCRI Pro Asp Ser Val Gly 70	CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	AAAAAANO: 2 ISTIC mino cid ear cein DN: 3 Lys Val His 40 Val Leu	GEQ Constant of the constant o	CCGGGA ds Leu 10 Pro Lys Glu Arg	D: 2 Leu Ser Gly Glu Glu 75	: Met Arg Pro Gly 60 Leu	Leu Gly Thr 45 Arg Cys	Leu Pro 30 Cys His	Met 15 Leu Arg Pro Gly	Ala Val Gly Gln Arg 80	1951
235 237 241 242 243 244 245 246 247 250 252 253 255 256 258 261 262 264	Met 1 Leu Thr Ala Glu 65	Cys Trp 50 His	GGG AGGC TORMATO (AGGC AGGC AGGC AGGC AGGC AGGC AGGC AGG	ATGGO FGAA FION QUENC A) LI B) TO CLECUI GLY Gly Gln Cys Thr	GCAGGACCTC FOR FOR ENGTH (PE: DPOLC ETT CE DH Ser 5 Gly Glu Val	CT GG SEQ HARAGH: 50 amin DGY: VPE: ESCRI Pro Asp Ser Val Gly 70	CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	AAAAAANO: 2 ISTIC mino cid ear cein DN: 3 Lys Val His 40 Val Leu	GEQ Constant of the constant o	CCGGGA ds Leu 10 Pro Lys Glu Arg	D: 2 Leu Ser Gly Glu Glu 75	: Met Arg Pro Gly 60 Leu	Leu Gly Thr 45 Arg Cys	Leu Pro 30 Cys His	Met 15 Leu Arg Pro Gly	Ala Val Gly Gln Arg 80	1951
235 237 241 242 243 244 245 246 247 250 252 253 255 256 258 261 262 264 265	Met 1 Leu Thr Ala Glu 65 Pro	GCTGG GCTGG INFO (ii) (xi) (xi) Thr Val Cys Trp 50 His	GGG AGGC TORMATO SECONDA SECON	ATGGO FGAAA FION QUENC A) LH B) TY C) TC CUENC Gly Gly Cys Thr Gly Phe	GCAGGACCTC FOR FOR CE CF ENGTH OPOLO E TY CE DF Ser Ser Gly Glu Val Cys Val 85	CT GC SA AM SEQ HARACH: 5C amin CGY: CYPE: ESCRI Pro Asp Ser Val Gly 70 Asn	CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	GEQ Action of the control of the con	Cys 90	Ser Glu Glu 75	: Met Arg Pro Gly 60 Leu Ser	Leu Gly Thr 45 Arg Cys	Leu Pro 30 Cys His Arg	Met 15 Leu Arg Pro Gly Cys 95	Ala Val Gly Gln Arg 80 Asn	1951
235 237 241 242 243 244 245 246 247 249 250 252 253 255 256 261 262 264 265 267	Met 1 Leu Thr Ala Glu 65 Pro	GCTGG GCTGG INFO (ii) (xi) (xi) Thr Val Cys Trp 50 His	GGG AGGC TORMATO SECONDA SECON	ATGGO FGAAA FION QUENC A) LI B) TO CLECUI QUENC Gly Gly Cys Thr Gly Phe Ser	GCAGGACCTC FOR FOR CE CF ENGTH OPOLO E TY CE DF Ser Sqly Glu Val Cys Val 85	CT GC SA AM SEQ HARACH: 5C amin CGY: CYPE: ESCRI Pro Asp Ser Val Gly 70 Asn	CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	E GC: A AAA 2: CS: acid GEQ Lys 25 Cys Arg His Cys	Cys 90	Ser Glu Glu 75	: Met Arg Pro Gly 60 Leu Ser	Leu Gly Thr 45 Arg Cys	Leu Pro 30 Cys His Arg Leu Ser	Met 15 Leu Arg Pro Gly Cys 95	Ala Val Gly Gln Arg 80 Asn	1951
235 237 241 242 243 244 245 246 247 249 250 252 253 255 256 261 262 264 265 267 268	Met 1 Leu Thr Ala Glu 65 Pro	CYS Trp 50 His Thr	GGG AGGC TORMATO SEGG (AGGC) S	ATGGO FGAAA FION QUENCA) LIA B) TY C) TC LECUI QUENC Gly Gln 20 Cys Thr Gly Phe Ser 100	GCAGGACCTC FOR CE CHENGTH VPE: DPOLCE TY CE DH Ser 5 Gly Glu Val Cys Val 85 Leu	CT GC GA AM SEQ HARACH: 50 amin CGY: CYPE: ESCR: Pro Asp Val Gly 70 Asn Val	CGCCTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	MAAAAANO: ZISTIC nino cid car cein DN: Si Lys Val His 40 Val Leu Tyr Glu	E GC: A AAA 2: CS: acid GLy Lys 25 Cys Arg His Cys Ala 105	Cys 90 Thr	Ser Glu Glu 75 Asp Gln	CAGO Met Arg Pro Gly 60 Leu Ser	Leu Gly Thr 45 Arg Cys His	Leu Pro 30 Cys His Arg Leu Ser 110	Met 15 Leu Arg Pro Gly Cys 95 Glu	Ala Val Gly Gln Arg 80 Asn Gln	1951



Input Set : N:\Crf3\RULE60\09903068.raw
Output Set: N:\CRF3\01162002\I903068.raw

271			115					120					125			
271	T	T		T	37a l	3 1 a	т		37-1	T	C1	T 0		II i a	17a 1	λ w.σ.
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	Ser	Leu	Ile	Leu		Ala	Ser	Glu	Gln		Asp	Thr	Met	Leu		Asp
280					165					170					175	
282	Leu	Leu	Asp		Asp	Cys	Thr	Thr	Gly	Ser	Gly	Ser	Gly		Pro	Phe
283				180					185					190		
285	Leu	Val	Gln	Arg	Thr	Val	Ala	Arg	Gln	Val	Ala	Leu	Val	Glu	Суѕ	Val
286			195					200					205			
288	Gly	Lys	Gly	Arg	${ t Tyr}$	Gly	Glu	Val	\mathtt{Trp}	Arg	Gly	Leu	\mathtt{Trp}	His	Gly	Glu
289		210					215					220				
291	Ser	Val	Ala	Val	Lys	Ile	Phe	Ser	Ser	Arg	Asp	Glu	Gln	Ser	\mathtt{Trp}	Phe
292	225					230					235					240
294	Arg	Glu	Thr	Glu	Ile	Tyr	Asn	Thr	Val	Leu	Leu	Arg	His	Asp	Asn	Ile
295					245					250					255	
297	Leu	Gly	Phe	Ile	Ala	Ser	Asp	Met	Thr	Ser	Arg	Asn	Ser	Ser	Thr	Gln
298				260					265					270		
300	Leu	Trp	Leu	Ile	Thr	His	Tyr	His	Glu	His	Gly	Ser	Leu	Tyr	Asp	Phe
301			275					280					285			
303	Leu	Gln	Arg	Gln	Thr	Leu	Glu	Pro	His	Leu	Ala	Leu	Arg	Leu	Ala	Val
304		290					295					300				
306	Ser	Ala	Ala	Cys	Gly	Leu	Ala	His	Leu	His	Val	Glu	Ile	Phe	Gly	Thr
	305			_	~	310					315					320
309	Gln	Gly	Lys	Pro	Ala	Ile	Ala	His	Arg	Asp	Phe	Lys	Ser	Arg	Asn	Val
310		_	_		325				-	330					335	
312	Leu	Val	Lys	Ser	Asn	Leu	Gln	Cys	Cys	Ile	Ala	Asp	Leu	Gly	Leu	Ala
313			_	340				_	345			_		350		
315	Val	Met	His	Ser	Gln	Gly	Ser	Asp	Tyr	Leu	Asp	Ile	Gly	Asn	Asn	Pro
316			355			-		360	-		-		365			
318	Arq	Val	Gly	Thr	Lys	Arg	Tyr	Met	Ala	Pro	Glu	Val	Leu	Asp	Glu	Gln
319	-	370	-		-	_	375					380		-		
321	Ile	Arq	Thr	Asp	Cvs	Phe	Glu	Ser	Tyr	Lvs	Trp	Thr	Asp	Ile	Trp	Ala
	385	•		-	_	390			-	-	395		-		•	400
324	Phe	Gly	Leu	Val	Leu	Trp	Glu	Ile	Ala	Arq	Arq	Thr	Ile	Val	Asn	Gly
325		_			405	•				410	•				415	•
	Ile	Val	Glu	Asp	Tvr	Ara	Pro	Pro	Phe	Tvr	Asp	Val	Val	Pro	Asn	Asp
328				420					425	- 4 -				430		
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331			435		<u>I</u> -		-1-	440			-4-		445			
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334		450				9	455			F		460			0-1	
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	Glu	Lvs	Pro	Lvs		Ile	Gln									
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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/903,068

DATE: 01/16/2002

TIME: 15:53:54

Input Set : N:\Crf3\RULE60\09903068.raw
Output Set: N:\CRF3\01162002\I903068.raw

L:27 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]

L:28 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]

L:2726 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26